

NewsRelease

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NASA LANGLEY FORECAST: CONTINUING TO SOAR TO NEW HEIGHTS

Mars Rovers Up ... Langley Prepared to Help them Come Down. More than a dozen Langley engineers are paying close attention to the Mars Exploration Rover currently on its way to the Red Planet. The second rover is due to follow in early July. Langley helped develop the capsules that will protect the rovers from excessive heat while entering the Martian atmosphere. They also helped design and test the giant parachute that will slow the landers during descent and will help maneuver the capsules to the precise landing zone. The 400-pound, golf-cart sized "Spirit" and "Opportunity" rovers are scheduled to reach Mars in January. The Mars Exploration Rover missions seek to determine the history of climate and water at two sites on Mars where conditions may have once been favorable to life. Contact Kathy Barnstorff at 757-864-9886 or k.a.barnstorff@larc.nasa.gov

Hypersonic X-Vehicle Ready for Reflight. NASA has set this fall for the reflight of the experimental X-43A hypersonic flight demonstrator. Since the first flight attempt failed in June 2001, an investigative board has completed its review of the mishap and NASA has reduced risk for the upcoming flight in a number of ways. As before, a NASA B-52 will carry the Pegasus launch vehicle and X-43A aloft for their release after which the booster will accelerate the unpiloted 12-foot-long vehicle to seven times the speed of sound. The flight will demonstrate, for the first time, "air-breathing" engine technologies on an aircraft in flight. These technologies may lead to a cheaper way to get into space. NASA Langley manages the overall program, while NASA Dryden Flight Research Center at Edwards AFB, Calif. manages the flight element.

Interested media may contact Keith Henry at 757-864-6120 or h.k.henry@larc.nasa.gov

Competition Leads Students to Think Science. NASA announces a student competition in honor of Leonardo Da Vinci. The VINNY is an award for the best one-minute videos on how science, technology, engineering or math can help solve common problems. The videos are accepted in English and Spanish in the following categories: grades K-5; 6-8; and 9-12. Registration is open until Oct. 31; videos are due March 15. The VINNY is sponsored by NASA Langley's Center for Distance Learning, in cooperation with Christopher Newport University, Newport News, Va., and with funding from the Institute of Electrical and Electronic Engineers.

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Cloud Changes May Lead to Altered Climate. NASA-funded research indicates changes in clouds might have more to do with global warming than originally thought. A decrease in clouds from the mid-1980s through the 1990s may be the result of a postulated 24-year cycle in cloud cover. Researchers expanded a recent NASA study using satellite observations to include all of the area between the 40th parallels. They showed that a decrease in cloudiness over the area was consistent with changes in the radiation budget, or the balance between Earth's incoming and outgoing energy, and could be part of a global cloud cover cycle.

Contact Chris Rink at 757-864-6786 or christopher.p.rink@nasa.gov

NASA Langley Helps Southeast States Celebrate the Centennial of Flight. Volunteers from NASA Langley will bring a special celebration of the Centennial of Flight to state fairs in West Virginia, Kentucky, South Carolina, North Carolina and Virginia this summer and fall. The traveling exhibit will offer a hands-on, interactive experience not only to inspire the next generation of explorers, but also to show how the world has benefited from NASA aerospace research since Langley, its first laboratory, was founded in 1917. Displays will chronicle the history of aviation from the first flight to space flight, present the latest in NASA research and highlight ground-breaking technologies that will change the future of aerospace.

Contact Kathy Barnstorff at 757-864-9886 or k.a.barnstorff@larc.nasa.gov

Future Aircraft Will Change Shape in Flight. NASA Langley scientists are developing new materials, systems and technologies to make aircraft quieter, more fuel-efficient, safer and more maneuverable. While some previous aircraft designs feature moveable swept-wings, the NASA Morphing Program is focused on eliminating the mechanics needed for this design method and introduce instead a system where embedded "smart" materials and actuators work to change an airplane's shape. The sensors will be able to respond to the constantly changing conditions of flight and will act like the nerves in a bird's wing to measure the pressure over the entire surface of the wing. The actuators will also change the shape of the aircraft's wings to continually optimize flying conditions, just as a bird's feathers would.

Interested media may contact Bill Uher at 757-864-3189 or w.c.uher@larc.nasa.gov

Inspiration from Nature. NASA Langley's Biomimetics Program is entrenched in the idea that Mother Nature makes the best flyers on the planet. But how does one go about proving that theory and learning from it? By simply having experts in several different fields work together. That is exactly what NASA scientists are doing. Aerodynamicists are taking the unusual step and are talking to biologists, trying to decipher how to make something fly using nature's abilities. Looking closely at the flight characteristics of creatures such as seagulls, eagles and even sharks, biomimetics will gain insight and use what is learned to build safer and more efficient flying machines.

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Speaker series:

September 9 – The Golden Ratio: The Story of Phi, the Most Astonishing Number

Presented by Mario Livio, author and mathematician.

The Golden Ratio is beloved of numerologists and mystics who claim that the Ancient Babylonians, the builders of the pyramids, were guided in their every action by adherence to the Golden Ratio. Livio thoroughly and entertainingly debunks these claims, going back to historical sources, and illustrating the intellectual dishonesty involved in such analyses.

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